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**INTEROFFICE MEMORANDUM**

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**TO:** JOHN MURRAY, ASSISTANT TOWN MANAGER  
**FROM:** FIRE CHIEF  
**SUBJECT:** RESPONSE TO QUESTIONS FROM FY05 BUDGET SESSION W/BOS & FINCOM  
**DATE:** 1/15/2004  
**CC:**

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1. **COST BENEFIT ANALYSIS OF WASHING VEHICLES:**

At the request of Selectmen Ashton I attempted to provide a cost-benefit analysis relative to the washing of fire and emergency medical apparatus. After numerous telephone calls and several hours of internet research it is my opinion that sufficient information does not exist to complete such a task. In order to develop any analytical information in this area I contacted Pierce Fire Apparatus (a leading fire apparatus manufacturer); ZEP Company (the manufacturer of our wash solution) and numerous internet sites including the on-line service for the International Association of Fire Chiefs. Simply stated it appears that there is no quantitative information to ascertain a direct correlation between apparatus washing and apparatus longevity.

As I stated at the budget meeting, I am extremely frustrated by our current inability to wash fire and emergency medical apparatus. I have explored numerous potential options, none of which are viable or cost-effective. The only solution that is apparent at this time is to proceed with the plan that has been proposed for the South Acton Fire Station. This does not completely solve our problem but will provide somewhat of a solution on a temporary basis. However, failure to provide adequate measures to wash our apparatus may result in the following consequences:

- a. Premature deterioration of the apparatus.
- b. Unsafe/unreliable apparatus (for example difficulty in the operation of external valves).
- c. Increased cost of repair and related down-time of apparatus.
- d. Increased cost due to potential fines and disciplinary action should we be cited for operating an ambulance not in compliance with emergency medical regulations.
- e. Decrease in morale of personnel operating dirty apparatus.
- f. Decreased pride and increased concern of citizens relative to the condition/maintenance of the fire apparatus bought and paid for with their tax dollars.

Finally it should be noted that in previous years when I attempted to purchase new fire apparatus, it was implied that if we took better care of our fire apparatus we might not have

the corrosion problems that we experienced. Needless to say, in our current situation it is impossible to properly maintain fire and emergency medical apparatus without the ability of washing it.

## **2. COMMENTS ON THE FEASIBILITY OF HANDLING DISPATCH FUNCTIONS FOR THE TOWN OF BOXBORO IN THE JOINT PUBLIC SAFETY DISPATCH CENTER:**

As I stated at the Budget session of 1/10/04 I would not be opposed to the consideration of providing public safety dispatch functions for the Town of Boxboro, as well as other adjacent communities. My main concern would be that adequate dispatch personnel staff the dispatch center at all times to handle any increased call volume. As I stated at the budget meeting, our department currently operates in a fairly consistent mutual-aid system. Therefore, operations should be fairly compatible and could be incorporated into the training provisions for public safety dispatchers. If I understand your question further, there also is the question of whether or not the operation could be split and still handle dispatching. From a technical standpoint I believe that this could be accomplished within the provisions of the 911 call-taking systems. However, my concern would be that by splitting dispatch functions to different communities the potential might exist to lose or drop a call. Obviously this could have disastrous results. It is also the very situation which we are seeking to avoid by changing to a joint dispatch with calls being taken and dispatched from one location. It is my suggestion that we either do all or nothing.

## **3. AMBULANCE RUNS AS A PORTION OF TOTAL CALLS:**

To answer this question I have attached a copy of the study done by the Fire Station Location task force with 1999 and 2000 data (see pg.2). As noted in that report emergency medical responses comprise approximately 50% of our total emergency responses. In addition I have also attached a breakdown of our medical responses for 2003. I would like to note that at this time we are in the process of finalizing our statistical information for 2003 for the purposes of the Annual Report. Although our total transports are less than what I stated at the budget meeting, it appears that once again emergency medical responses will comprise approximately 45-50% of our total emergency responses.

Attachments

## Acton EMS Response Data

	Jan.	Feb.	Mar.	April	May	June	July	August	Sept	Oct.	Nov.	Dec.	Totals
AFD Transports	63	57	80	63	59	58	55	68	86	80	71	76	816
Mutual Aid Trans.	1	4	10	10	13	13	10	4	12	7	10	9	103
ALS	1	33	37	32	25	26	28	33	45	35	31	37	363
BLS only Transports	37	24	43	31	34	32	27	35	41	45	42	39	430
Ref/Cancel/Ret/No Trans.	27	22	17	26	32	22	17	27	30	30	32	34	316
LifeFlight/Medflight	0	0	0	0	0	0	0	0	1	0	1	0	2
AFD Multi Transports	1	0	2	0	0	0	0	0	0	0	3	0	6
Mutual Aid to:	0	0	3	3	2	5	2	5	2	5	3	0	30
R33 Out of Service	0	1	1	4	10	6	5	3	2	0	4	4	40
R33 Busy at incident	6	2	9	6	3	7	5	1	10	7	4	5	65

Estimated Totals for 2003

# Fire/EMS Response Task Force

A Task Force of the  
Acton  
Public Safety Facilities Building Committee  
(June 18, 2001)

**Project Goals**

1. Study and Recommend an appropriate projected level of Fire/EMS response protection for the Town of Acton for the next 20 years.
2. Develop and Cost a viable set of alternative Fire/EMS station location scenarios for consideration at a Town Meeting in early 2002.

**Task Force Members**

Jack Reetz -Chair	<a href="mailto:j.reetz@worldnet.att.net">j.reetz@worldnet.att.net</a>	263-5587
Bob Vanderhoof -ViceChair (Fire Dept. Captain)	<a href="mailto:BobVand@aol.com">BobVand@aol.com</a>	264-9645
Jan Patrick	<a href="mailto:Patrick@acunet.net">Patrick@acunet.net</a>	263-2635
Mal MacGregor (former Fire Chief)	None	263-9286
Bob Ingram	<a href="mailto:Ingram@FIAM.net">Ingram@FIAM.net</a>	263-2674
John Murray	<a href="mailto:jmurray@town.acton.ma.us">jmurray@town.acton.ma.us</a>	264-9612
Advisor – Bob Craig (Fire Chief)	<a href="mailto:RCraig@town.acton.ma.us">RCraig@town.acton.ma.us</a>	264-9645

# Acton's Changing Needs For Fire/EMS Response

(1979-1980 to 1999-2000)

Popu- lation	Avg. Age	2 Year's Incidents	Fire	Medical	Auto	Misc/ False	Total
		<b>1979-1980</b>	414	615	441	686	2156
		<b>%</b>	<b>19%</b>	<b>29%</b>	<b>20%</b>	<b>32%</b>	<b>100%</b>
		<b>1999-2000</b>	139	1714	340	1272	3465
		<b>%</b>	<b>4%</b>	<b>49%</b>	<b>10%</b>	<b>37%</b>	<b>100%</b>

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## 2019-2020      Projections

Popu- lation	Avg. Age	2 Year's Incidents	Fire	Medical	Auto	Misc/ False	Total
		<b>2019-2020</b>	85-120	2340-2550	340-380	1275-1400	4000-4500
		<b>%</b>	<b>2-3%</b>	<b>55-60%</b>	<b>8-9%</b>	<b>30-33%</b>	<b>95-105%</b>

# Task Force Methodology

- Define Incidents
- Analyze 1999-2000 Incidents (3,465)
- Quantify present 3 Station 1<sup>st</sup> Response Time (Baseline)
- Develop milestones consistent with other Task Forces
- Correlate current response levels with FLAME results (FLAME is a nationally used software predictive tool)
- Identify alternative proposed station locations
- Utilize FLAME to investigate proposed alternatives
  - Establish comparative response times
  - Cost each alternative\* (Labor, Equipment, Structure construction/renovation, Land, etc.)
- Perform comparable town comparative analysis\*
- Develop recommendation(s) for review/approval by PSFBC-SC
- Present recommended course of action and associated cost at Town Meeting

\* with Financial Task Force support

# Acton

## Precinct-based Fire/EMS Incident Data (1999-2000)

<u>Precinct</u>	<u># Residents</u>	<u>% Population</u>	<u>Incidents per Precinct</u>	<u>% Incidents</u>	<u>Average Response</u>  (Min.)
<b>1</b>	3969	<b>19.9%</b>	884	<b>25.5%</b>	<b>5.0</b>
<b>2</b>	4117	<b>20.6%</b>	623	<b>18.0%</b>	<b>3.9</b>
<b>3</b>	3952	<b>19.8%</b>	379	<b>10.9%</b>	<b>3.4</b>
<b>4</b>	3694	<b>18.5%</b>	1052	<b>30.4%</b>	<b>3.2</b>
<b>5</b>	4231	<b>21.2%</b>	527	<b>15.2%</b>	<b>4.5</b>
	-----		-----		
<b>Total</b>	<b>19,963</b>	<b>100.0%</b>	<b>3,465</b>	<b>100.0%</b>	<b>4.0</b>



**Acton**  
**Fire/EMS Incident Data (1999-2000)**  
**(Highest Incident Locations)**

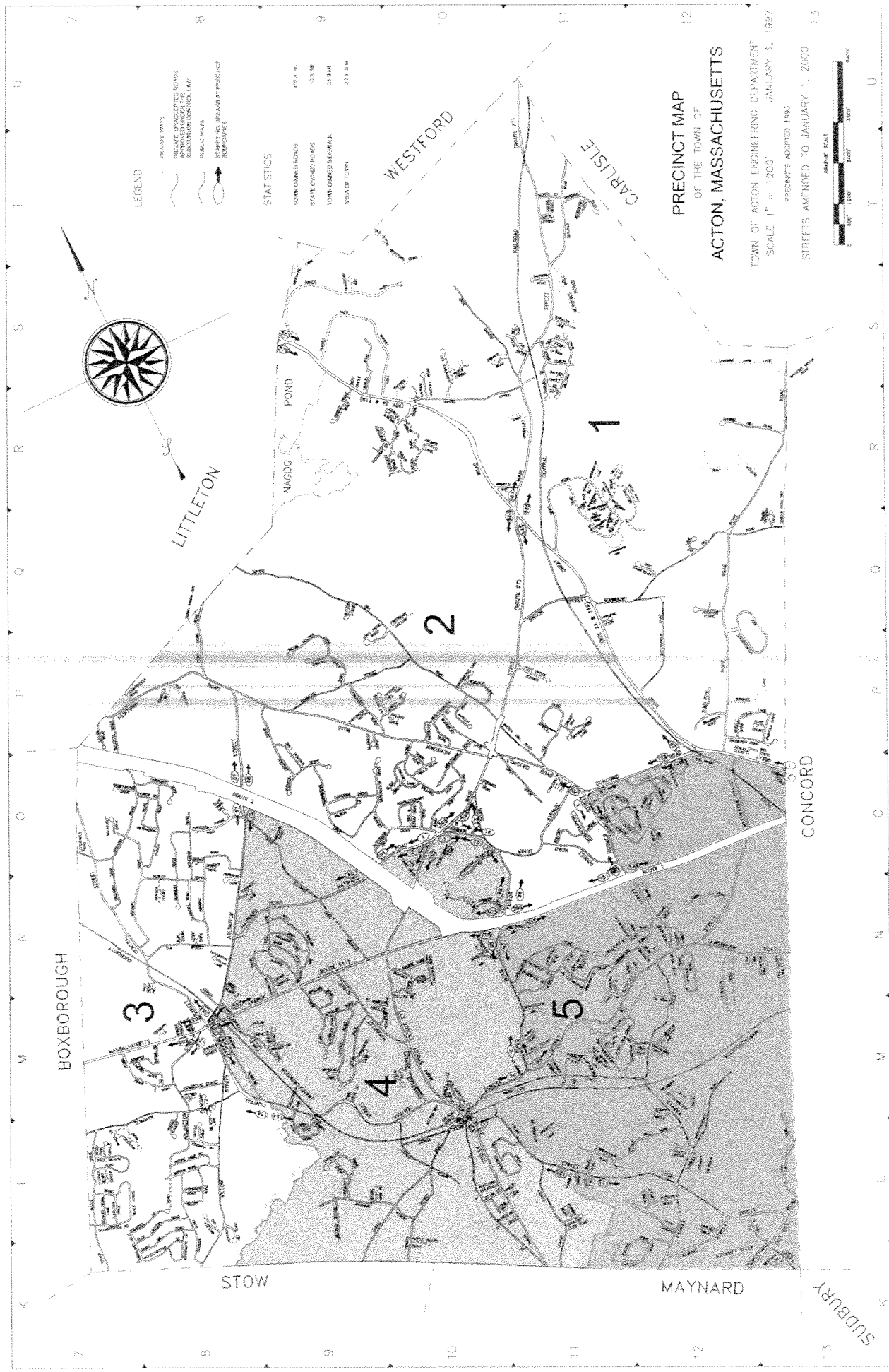
<u>No.</u>	<u>Address</u>	<u>Function</u>	<u># Incidents</u>	<u>%</u>	<u>Precinct</u>
1	1 Great Road	Suburban Manor	177	5.1%	1
2	321 Main St.	Acton Medical	123	3.5%	4
3	68 Windsor Ave.	Senior Housing	65	1.9%	4
4	36 Charter Rd.	ABRHS	57	1.6%	4
5	16 Charter Rd.	R. J. Grey Junior High	35	1.0%	4
6	87 Hayward Rd.	Haartz	31	0.9%	4
7	117 Central St.	Dover Heights Apt.	30	0.9%	4
8	100 Powdermill Rd.	Powdermill Plaza	25	0.7%	5
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			543	15.7%	
Next 33	All Precincts (# of Addresses)		463 (10-24)	13.4%	All (As Follows)
	15		189	5.5%	1
	5		69	2.0%	2
	3		33	1.0%	3
	7		123	3.5%	4
	3		49	1.4%	5
			-----	-----	
41			1,006	29.0%	

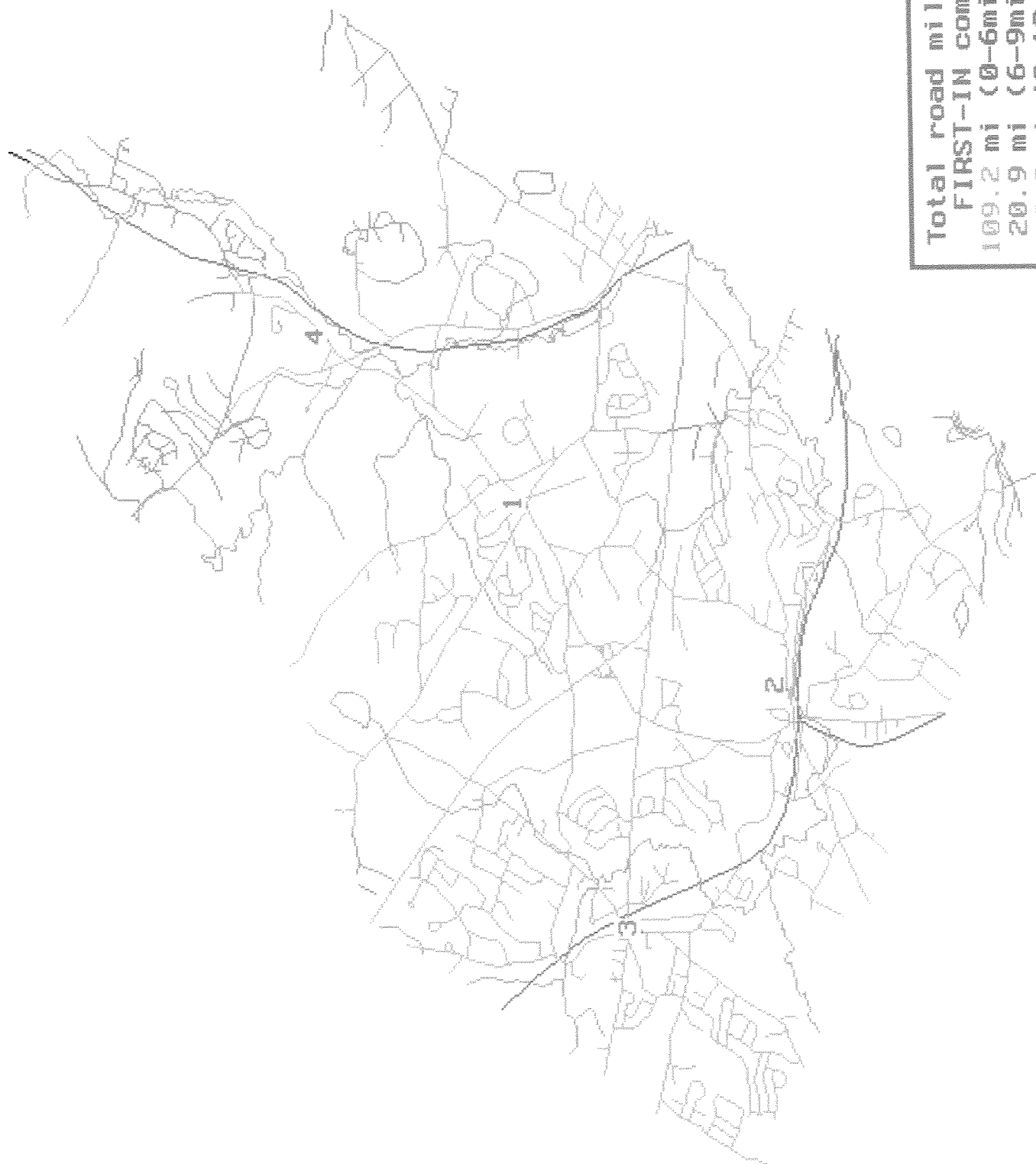
# Acton

## Precinct-based Response Time in Min. (1999-2000)

### Cumulative % Precinct Response Times by Minute

Precinct	1	2	3	4	5	6	7	8	9	10	11
1	2%	8%	20%	43%	64%	81%	90%	96%	99%	99.5%	100%
2	6%	23%	46%	69%	83%	93%	97%	99%	99%	100.0%	100%
3	12%	35%	61%	77%	88%	95%	96%	98%	99%	100.0%	100%
4	9%	35%	65%	85%	94%	97%	98%	99%	99%	99.5%	100%
5	4%	10%	28%	53%	77%	88%	95%	98%	99%	99.6%	100%
<b>Acton</b>	<b>6%</b>	<b>22%</b>	<b>44%</b>	<b>66%</b>	<b>81%</b>	<b>91%</b>	<b>95%</b>	<b>98%</b>	<b>99%</b>	<b>99.7%</b>	<b>100%</b>





Total road miles for  
FIRST-IN company  
109.2 mi (0-6min)  
20.9 mi (6-9min)  
0.9 mi (9-10min)

# **Alternatives currently under Consideration**

## **Assumptions**

Maintain/improve Level of Service with cost sensitive solutions  
having sufficient growth potential

Retain level staffing, if possible (excludes joint Dispatch)

Retain 2-person first response

## **Alternatives**

- Retain current 3 station locations
  - Renovate 3 buildings to code
  
- Relocate Central to North (27/2A) to potentially improve overall town response times
  - Build one new station (27/2A)
  - Renovate 2 stations
  - Reuse Central as is for other town needs; maintaining site for potential future Fire/EMS renovation/reuse
  
- Add 4<sup>th</sup> station at 27/2A
  - Improve town-wide response time
  - Build one new station (27/2A)
  - Renovate 3 stations
  - Probably will (may) require additional staff and equipment

# **Alternatives currently under Consideration (cont'd)**

## **Assumptions**

Improve Level of Service (response time) by meeting some or all new National Fire Protection Standards (NFPA) Standards

- 5 min. response 90% of the time (1-Turnout, 4 Travel)
- 4 Persons at First Response 90% of the time (Currently 2)

## **Alternatives**

- Meet 5 min./90% NFPA standard with 2 persons at First Response
  - How many stations are needed?
  - Where are the optimal locations?
  - What is the estimated cost?
- Meet 5 min./90% NFPA standard with 4 persons at First Response
  - What is the estimated cost?
- Meet 5 min./90% NFPA standard with 4 persons at First Response with level staffing and only 2 stations
  - Where are the optimal locations if there are 2 stations?
  - What would the average town-wide response time be?
  - What would the longest response time be?

# **Status**

- **Analysis of 1999-2000 data complete**
- **Response time baseline established**
- **Detail milestones not yet completed (Target compl. 8/01)**
- **Correlation of FLAME with current response levels in process**
- **Alternatives identified (but not cast in concrete)**
- **Fire Department in process of learning FLAME functionality and assessing alternatives**
- **Fire Department beginning collection of labor and equipment cost data**
  - **Consultant to supply construction/renovation cost estimates**
  - **Town staff to provide land cost estimates for selected alternatives**

## **Summary**

**Your support of the requested funding is needed to enable the Architect (along with participating citizens and town staff) to develop complete cost estimates of these alternatives.**